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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,950

07/05/2006

Hiroyuki Nagasaka

128620

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7590

08/19/2009

OLIFF & BERRIDGE, PLC

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ALEXANDRIA, VA 22320-4850

EXAMINER

KIM, PETER B

ART UNIT

PAPER NUMBER

2851

MAIL DATE

DELIVERY MODE

08/19/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/584,950	Applicant(s) NAGASAKA, HIROYUKI	
	Examiner Peter B. Kim	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 1-13, 19-38, 42-48 and 51-53 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14, 16, 39, 49, 50 and 54 is/are rejected.
- 7) ☒ Claim(s) 15, 17, 18, 40 and 41 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :7/5/2006, 10/24/2006, 6/18/2007, 9/17/2008.

DETAILED ACTION

Election/Restrictions

Claims 1-13, 19-38, 42-48, and 51-53 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected groups, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on May 1, 2009.

Applicant argues that there is no serious burden; however, there are many distinct groups in the application which would require different areas of search and there is a serious burden.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 16 and 50 are rejected under 35 U.S.C. 102(e) as being anticipated by Vogel et al. (Vogel) (2004/0257544).

Vogel discloses an exposure apparatus and a method for producing a device using the apparatus which exposes a substrate (101) by radiating an exposure light beam onto the substrate through a liquid (para 0029), the apparatus comprising a projection optical system (102), a liquid supply mechanism (105A), a liquid recovery mechanism (105B); and a substrate stage (inherent) which hold the substrate (101) wherein a velocity movement of the substrate stage differs depending on a direction of movement of the substrate stage from a first position to a second

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position when the substrate stage is moved substantially linearly from the first position to the second position in a state in which a liquid immersion area is locally formed on the substrate stage by the liquid supply mechanism and the liquid recovery mechanism (para 0021-0024, 0028, 0029). The immersion lithography exposure apparatus of Vogel exposes by scanning which means the substrate stage is moved at a predetermined velocity in both the right and left direction in Fig. 4. Since velocity is defined in terms of speed and direction, by definition, every time the direction of the movement of the stage is changed from left to right, the velocity is changed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14, 39, 49 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makinouchi et al. (Makinouchi) (5,699,145) in view of Vogel et al. (Vogel).

Makinouchi discloses an exposure apparatus and a method and a device manufacturing method using the apparatus which exposes a substrate (5) by radiating an exposure light beam (EL) onto the substrate, the apparatus comprising a projection optical system (8), a substrate stage (4) which holds the substrate wherein a velocity of movement of the substrate stage differs depending on a distance between a first position and a second position when the substrate stage is moved substantially linearly from the first position to the second position (col. 5, lines 12-34, col. 9, line – col. 10, line 67). Makinouchi discloses measuring the position of the reticle stage

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and the wafer stage and adjusting the velocity accordingly, which means the distance the wafer stage is moved is different depending on the position of the stage. However, Makinouchi does not disclose immersion liquid lithography and a liquid supply and a liquid recovery. Vogel discloses an exposure apparatus and a method for producing a device using the apparatus which exposes a substrate (101) by radiating an exposure light beam onto the substrate through a liquid (para 0029), the apparatus comprising a projection optical system (102), a liquid supply mechanism (105A), a liquid recovery mechanism (105B); and a substrate stage (inherent) which hold the substrate (101). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the immersion liquid to the invention of Makinouchi in order to improve the resolution as taught by Vogel in para 0004, 0005.

Allowable Subject Matter

Claims 15, 17, 18, 40 and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 15 and 40, none of the prior art of record teaches or discloses an exposure apparatus and a method comprising the velocity of movement of the substrate stage is decreased when the distance between the first position and the second position is not less than a predetermined amount as compared with when the distance between the first position and the second position is shorter than the predetermined amount in combination with the limitations of the independent claims from which claims 15 and 40 depend.

Regarding claim 17, none of the prior art of record teaches or discloses an exposure apparatus comprising the velocity of movement of the substrate stage is decreased when the

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substrate stage is moved in a predetermined direction in which a liquid recovery force brought about by the liquid recovery mechanism is smaller than when the substrate stage is moved in a direction different from the predetermined direction in combination with the limitations of claim 16.

Regarding claim 41, none of the prior art of record teaches or discloses an exposure method comprising recovering the liquid disposed on the substrate, wherein the velocity of movement of the substrate is decreased when the substrate is moved in a predetermined direction in which a liquid recovery force is weak as compared with when the substrate is moved in a direction different from the predetermined direction in combination with the limitations of claim 39.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter B. Kim whose telephone number is (571) 272-2120. The examiner can normally be reached on 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter B. Kim/
Primary Examiner, Art Unit 2851

August 14, 2009